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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,975	05/22/2006	Markus Flik	016906-0452	1615
23428 7590 06/23/2009 FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007				
EXAMINER				
LEO, LEONARD R				
ART UNIT		PAPER NUMBER		
3744				
MAIL DATE		DELIVERY MODE		
06/23/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/561,975

**Applicant(s)**

FLIK ET AL.

**Examiner**

Leonard R. Leo

**Art Unit**

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date 12/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “leak tightness sensor” in claim 15 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

Claims 11 and 25 are objected to because of the following informalities: the recitation of “joins” in claim 11, lines 3-4 and claim 25, lines 24-25 should read -- joints --. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 6-7, 10, 12, 14, 16, 18 and 25-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 3, 6, 10, 12, 14, 16, 18 and 25, the phrase “in particular, although not exclusively” renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d). In this respect, the recitation of “although not exclusively” is read as broadening the scope of the claim by removing the structure or method set forth “in particular.”

Claim 6 recites the limitation “the turbulence-generating and/or turbulence-increasing shaped elements” in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation “the turbulence-generating and/or turbulence-increasing shaped elements” in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation “the sealing elements” in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 15 recites the limitation “the sealing elements” in line 3. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 26, the phrase “in particular for exhaust-gas cooling for an internal combustion engine” renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-14, 16-17, 19, 22-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Furukawa et al. Figure 1 discloses three flow devices for fluids La, Lb, Lc, each having a fluid collection and/or distribution device and fluid outflow device since the devices are connected in fluid circuits; two flow assemblies 13A, 13B, each having plural flow elements 15 (Figure 2) connected in liquid-tight and positively locking manner; flow paths f1, f2, f3 lying in parallel planes; and flow assemblies 13A, 13B are connected in series in a positively locking manner.

Regarding claim 2, Furukawa et al discloses the flow elements 15 are plates.

Regarding claims 3, 6, 10, 12, 14, 16 and 25, as stated above, the recitation of “although not exclusively” is read as broadening the scope of the claim by removing the structure or method set forth “in particular.” Thus, the structure of Furukawa et al meets the claim.

Regarding claim 4, Figure 2 discloses simple openings in the flow elements 5.

Regarding claims 7-8 and 17, Figure 3 discloses flow elements 5 are turbulence-generating and/or turbulence-increasing shaped elements.

Regarding claims 9-11 and 13, Figures 2 and 4 discloses positively locking flow elements 5 about their periphery.

Regarding claim 16, Figure 2 discloses thermal insulating separation 16.

Regarding claims 19 and 23, the counter flow paths f1, f2, f3 of Figure 2 provides a constantly decreasing temperature gradient.

Regarding claims 22, 24 and 26, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Regarding claim 25, the device of Furukawa et al is produced in a manner similar to the claimed invention.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Furukawa et al in view of Bond.

Furukawa et al discloses all the claimed limitations except a leak tightness sensor.

Bond discloses a plate heat exchanger comprising a plurality of flow elements 1, 2 with simple openings 3-6 and sealing elements 7a, 8, 9 and leak tightness sensor 13 for the purpose of detecting integrity failure (column 2, line 67 to column 3, line 12).

Since Furukawa et al and Bond are both from the same field of endeavor and/or analogous art, the purpose disclosed by Bond would have been recognized in the pertinent art of Furukawa et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Furukawa et al sealing elements with a leak tightness sensor for the purpose of detecting integrity failure as recognized by Bond. This use of gaskets and bonded flow elements are obvious variants of each other.

Claims 18 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furukawa et al in view of Wennerberg.

The device of Furukawa et al lacks a further inflow device.

Wennerberg (Figures 3 and 12) discloses a plate heat exchanger comprising a plurality of flow elements *P* with simple openings 1-5, wherein of the openings is a further flow device 5 for the purpose of combining or mixing the fluid flows.

Since Furukawa et al and Wennerberg are both from the same field of endeavor and/or analogous art, the purpose disclosed by Wennerberg would have been recognized in the pertinent art of Furukawa et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Furukawa et al a further flow device for the purpose of combining or mixing the fluid flows as recognized by Wennerberg.

Regarding claim 21, Figure 2 of Wennerberg discloses flow dividing.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard R. Leo whose telephone number is (571) 272-4916. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/ Leonard R. Leo /  
PRIMARY EXAMINER  
ART UNIT 3744

June 23, 2009